

# SL1260

## External motor

**T**he external motor SL1260 can be applied to any double-glazed units using the ScreenLine® rotational magnetic transmission. This includes the raising, lowering and tilting functions for Venetian blinds or the raise / lower functions for plissé blinds.

It is made up of two parts: a motor base plate and a removable motor.

The motor base plate – this component comprises the external magnet, hexagonal transmission coupling, adhesive interface and cables for power connection etc.

The motor base plate is firmly fixed onto the glass surface by means of adhesive strips. There are 5 cables integrated into the base unit - 2 (black and red) for the power supply 20 cm long, and 3 (blue/ white/ grey) for the individual control switch 1.5 metre long.

The removable motor- this comprises the electric motor, reducer, electronic control card, double encoder for speed control, a programmable dip-switch and a L.E.D. In the event of motor problems the 'old' removable motor can be slid off and a 'new' one added.

The possible configurations for the control of the blinds using the external motor are:

- **Basic configuration**

It is made up of a motor card governed by a single blind control.

It controls a single blind operated by single switch.

- **Centralised room configuration**

It is made up of one or more blinds (up to sixteen) with a basic configuration, governed by a control unit.

- **Centralized building configuration**

It is made up of one or more centralized configurations where the control unit devices are coupled, by means of an external relay, to an external switch manual or remote control that closes all the blinds simultaneously.

In the centralized system, data passing from the control units to the motor cards are transmitted through the 24 Vac low voltage supply line using 500Hz bus waves with a 125KHz carrier wave.

## Technical features

### 1. Motor card

Supply voltage:	24Vac +15/-30%
Maximum power:	17W
Stand-by power:	1W
Reduction ratio:	1/16
Low speed motor revolutions:	2600 rpm
High speed motor revolutions:	5000 rpm
Protections: internal against short circuits:	(PTC)
Operating temperature:	0-70°C
Storage temperature:	-30°C +85°C
Relative humidity:	30-85%
Weight:	~300g
Size:	190 x 36 x 38 (h) mm
Container:	custom made
Control system:	external switches or carrier waves transmitted by customised control unit.

The motor card is capable of stabilising and reducing the supply voltage from 24Vac to 12Vdc.

EC marking: in compliance with the following regulations

EN50065-1 (1991)
Amendment A1 (1992),
EN61000-3-2 (1995)
Amendment A13 (1997)
EN61000-3-3 (1995),
EN50082-1 (1997),
EN55014-2 (1997)

The motor card is the electronic unit located inside the motor casing. It can communicate with the blind control and the control unit. It activates the controls for opening, closing, stop and reset (motor control).

The motor card includes:

- 2 inputs for the supply and communication with the control unit (supply: 24Vac)
- 3 inputs to connect the blind control (UP, DOWN, COMMON).
- A L.E.D. diode indicating the blind condition (selection and messages when lit).
- A 6-channel dipswitch where the first four switches identifies the number of the

blind (1 to 16) for a centralized use. The fifth switch identifies the group A or B (group control). The sixth switch changes the direction of rotation of the motor.

### 1.2 Blind operation

The blind control is made up of two traditionally open buttons (UP and DOWN) that transmit to the motor card the controls of opening, closing, stop and reset, by means of three cables (grey: DOWN, blue: UP, white: common) protruding from the multiple-socket adapter of the motor base plate.

When pushing one of these two buttons, the blind starts moving slowly, "low speed", 3 seconds later (still pushing the button), the blind starts moving faster, thus passing to the "high speed" stage. During the low speed stage, when the button is released, the blind will stop. Once the blind (after 3 seconds) has reached the high-speed stage, it will continue to move even when the button is released. The blind will only stop when (a) it reaches the set limits for the TOP or BOTTOM, or (b) by pushing the Up or DOWN button of the blind control switch, the control unit or the remote control.

## 2. Mechanics

Whenever the motor card is energised, the card will remain on stand-by for 10 seconds (self-diagnosis and self-setting time), indicated by the flashing led.

After this lapse of time, the functions will be reactivated.

### 2.1 Top and Bottom Limit setting

These are the set limits for the blind operation (TOP and BOTTOM level) when the blind will stop automatically.

These levels can be set individually through the individual blind control switch or, on centralized plants, through the control unit and/or the remote control (individually or in groups of blinds) with the following procedure:

1. Push the UP and DOWN buttons simultaneously for 8 seconds until the LED on the motor card starts flashing rapidly (this clears the current memory and prepare for the new settings).
2. Using the UP or DOWN button drive the blind to the FIRST SET LIMIT. Press both the UP and DOWN buttons simultaneously for 8 seconds until the LED on the motor card flashes twice.
3. Using the UP or DOWN button now drive the blind to the SECOND SET LIMIT. Press both the UP and DOWN buttons simultaneously for 8 seconds until the LED on the motor card flashes four times.

### 2.2 Opening / Tilting

By pressing the UP button the blinds can be opened. During the first 3 seconds of

operation the blind speed is slow in order to give more control of the slat orientation. After this time the speed increases and the blind will continue to move even though the button is released. This movement will only stop by momentarily pressing the UP or DOWN button or when the blind reaches its SET limit.

### 2.3 Closing / Tilting

By pressing the DOWN button the blinds can be closed. The closing speed is slower during the first 3 seconds, in order to allow greater slat control. The speed increases and becomes continuous even when the button is released. This movement will only stop by momentarily pressing the UP or DOWN button or when the blind reaches its SET limit.

### 2.4 Stop

When moving, the blind can be stopped by pressing and releasing the UP or DOWN buttons.

(The blind will only stop when the button is released).

### 2.5 Encodometric function

When using the blind, the encodometric control is designed to identify any motor or blind anomalies.

The encodometric function incorporates 2 optical sensors that measure: the direction of spin of the motor, the revolution speed, the motor resistance and the number of clockwise and anti-clockwise revolutions.

When the encodometric control finds a sudden slowing down of the motor, or the blind becomes jammed, the L.E.D. flashes rapidly and the motor reverses in the opposite direction for one second.

The encodometric function if activated must then be investigated.

### 2.6 Data storage

The motor card "memorises" its condition, storing positions, levels and settings for every movement in an internal EPROM. Furthermore, by means of an internal condenser, the data is also recovered should the power supply to the motor card be interrupted. During data storage, a self-diagnosis on the state of the memory is made in order to ensure the data storage capability is maintained even when the memory cells wear out.

### 2.7 Motor speed control

The motor is fed by a "H" bridge by means of a PWM signal; this allows continuous control of the motor revolution speed. By properly modifying the PWM frequency it is possible to vary the average voltage to the motor and consequently, the revolution

speed becomes constant when the motor operates even if the friction changes or the blinds are of different sizes.

The operating parameters are pre-set and cannot be modified.

### **2.8 Motor inversion**

Dipswitch n.6 (see drawing page 26) allows the motor revolution direction to be inverted.

## **3 Motor control for centralised configurations**

### **3.1 Group control**

The control of two separate groups is a function of the centralized configuration. This function controls simultaneously the motor cards belonging to the same group.

The group is identified by means of the fifth dipswitch setting on the individual motor (see drawing page 26).

### **3.2 Selected motor display**

When selecting a motor using the SELECT (SEL) button of the control unit or of the remote control, the motor LED lights up to confirm the selection. After 8 seconds of inactivity, the LED goes out. It will come on again when: one of the individual blind control buttons is pressed (only as long as the button is pushed); when it receives a selection control signal from the control unit (SEL); when pushing the UP or DOWN buttons on the control unit or the remote control unit. In this case all the pre-set blinds will be activated simultaneously (when selecting the blinds belonging to the groups A or B).

### **3.3 Important**

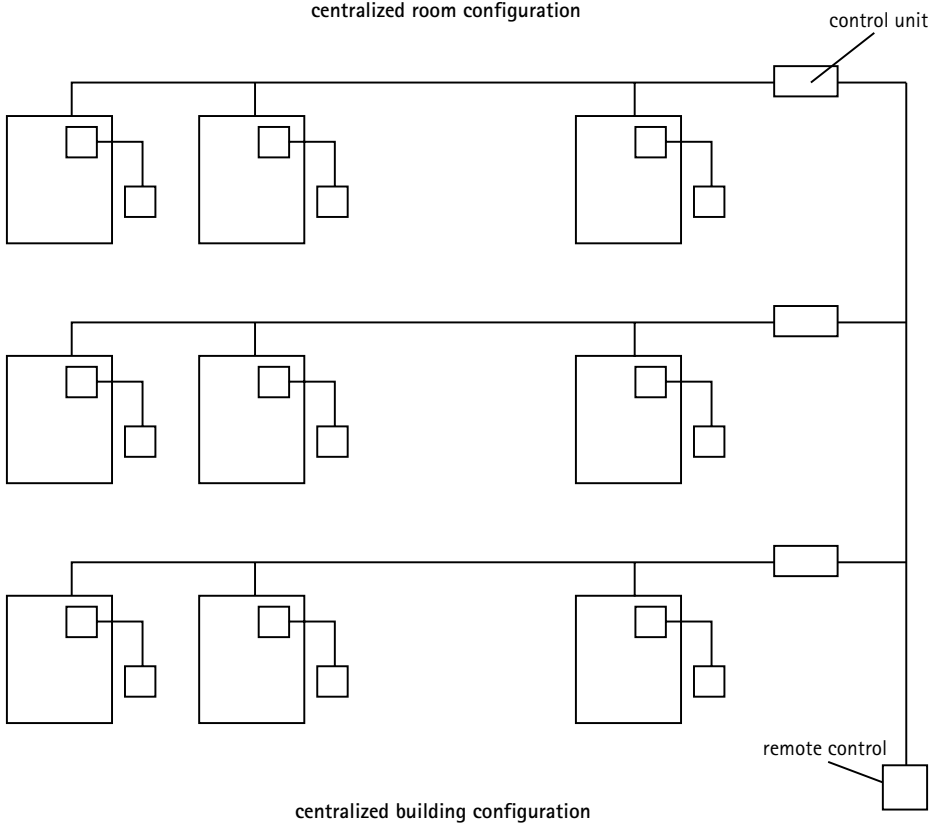
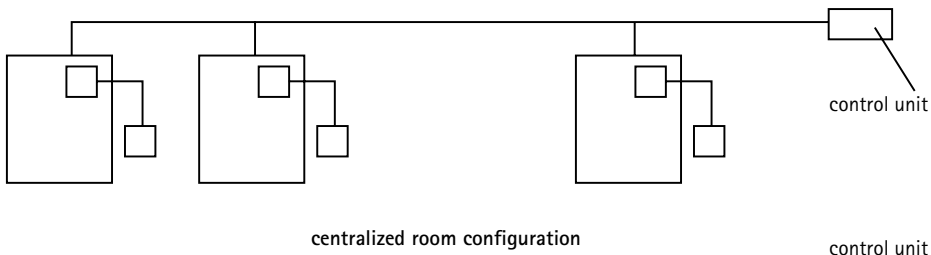
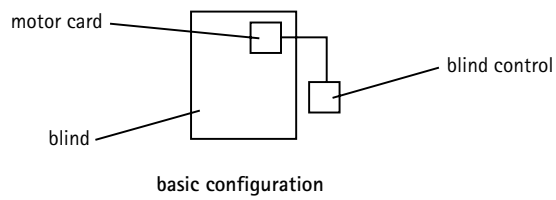
When allocating the motor dipswitch settings on the blinds (up to 16) that are to be automated, the respective identification codes must be set as well (see following drawing). It will then be possible to select the blinds by means of the control unit. The blind selection (SEL button on the control unit) is also possible when the blinds move.

### **3.4 Setting of the motor card Dip-Switch**

See the assembly instructions on page 21 of this handbook.

### 3.5 Schematics for Group Control

Various configurations are shown below for typical motorised blind system installations:

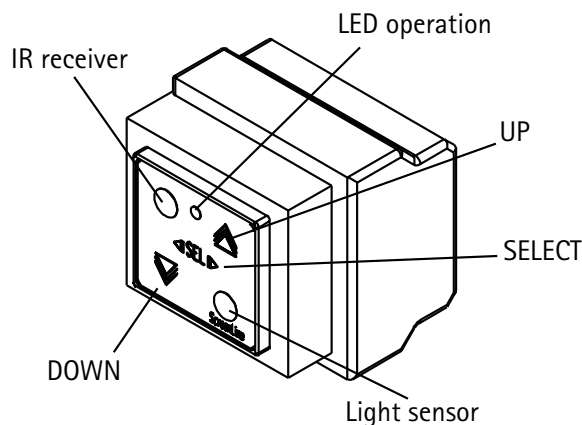


### 1. Introduction

The group control unit SL1291 controls the opening, closing and tilting of venetian or plissé blinds, in a centralized system manually or by means of a remote control.

The possible configurations for the control of the blinds are:

- **Basic configuration:**  
Here a single motor is regulated by the control unit.
- **Centralised room configuration:**  
Here one or more blinds (up to sixteen), with a basic configuration are governed by a single group control unit.
- **Centralized building configuration:**  
Here there is one or more centralized configurations where the all the connected group control units are connected, by means of an external relay, to an external switch that closes all the blinds simultaneously.



### 2. Technical features

Supply voltage:	24Vac +15/-30%
Nominal power:	0.5W
Protections: internal against short circuits:	(PTC)
Operating temperature:	0-70°C
Storage temperature:	-30°C +85°C
Relative humidity:	30-85%
Container:	custom made to be assembled with 2 modules of the chassis for switches VIMAR of the DEA series
Size:	54 x 56 x 51 (h) mm

Control system:	external keys and infrared customised remote control
Automatic control:	automatic blind control using an internal light sensor
EC marking: in compliance with the following regulations	EN50065-1 (1991) Amendment A1 (1992), EN61000-3-2 (1995) Amendment A13 (1997) EN61000-3-3 (1995), EN50082-1 (1997), EN55014-2 (1997)

The electronic card includes a switching feeder stabilizing and reducing the supply voltage from 24 Vac to 5Vdc.

## 2.1 Description

The control unit can communicate (by carried waves) with the motor program card assembled on the blinds by simulating the "blind control". It can therefore control the opening, closing, stop and reset functions of the motor program.

The group control unit card includes:

- 2 connections to the transformed power supply (24Vac) to the respective motors for communication with the motor program card.
- 1 sensor for remote control transmission.
- A L.E.D. diode which indicates group control unit activity and also operates during other various functions (remote control, keys blocking, setting and activation of the brightness sensor).
- A 6-channel dipswitch where the first four channels allocates the number of motors that are to be controlled (up to 16). The fifth channel activates the A or B group control function. The sixth channel is not used.
- UP and DOWN buttons to transmit the opening, closing, stop and reset controls to the motor cards.
- SELECT button to select the individual (or group) motor card.
- 1 light control (brightness) sensor.

## 3. Operation

The group control unit signals the blind motors transmitting codes by means of carried waves that travel on the 24Vac-supply line (all motors must be all wired to the same supply line).

The unit can control up to 16 motors, individually, in groups (A or B) or all together.

During installation, the number of blinds in the system must be allocated to the dip-switches located at the back of the control unit and, if required, the group management control (see following drawings).

**Setting of the group control unit Dip-Switch**

See the instructions on page 21 of this handbook.

**3.1 Description of the key functions**

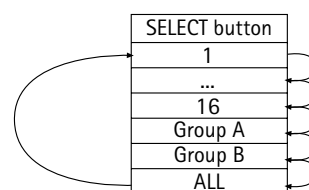
**3.1.1 Select**

The SELECT button allows selection of the motor (or motors) to be controlled. When the motor is selected by means of the control unit, the L.E.D. inside it lights.

By repeatedly pressing the SELECT button, you will progress from one blind motor to the next, then group A blinds (where previously allocated), then group B blinds (where previously allocated), and finally all the blinds simultaneously. The next press of the button repeats the sequence of events.

Example of how the selection button works in centralised system of 6 blinds where a group function A has been allocated to blinds 1-3-5 and the blinds 2-4-6 are allocated to group B:

Button	Blind which lights
SELECT	1
SELECT	2
...	...
SELECT	6
SELECT	1 - 3 - 5
SELECT	2 - 4 - 6
SELECT	1 - 2 - 3 - 4 - 5 - 6



SELECT button sequence

If you do not want to operate the two separate groups, do not push the SEL button the last two times. To avoid this, it is simpler to eliminate the group allocation by switching OFF dipswitch No.5.

A number of blinds can be controlled simultaneously by allocating the same motor number on their respective dipswitches.

Once a motor signalled and activated, it will continue to operate independently of the other blinds. It is therefore possible, after transmitting an instruction to a blind, to select another blind and to transmit other instructions to this one without affecting the original selection.

### 3.1.2 Up and Down

These buttons transmit to the selected motor the opening, closing, stop and reset controls.

#### 3.1.2.1 Opening / Tilting

Pressing the UP button signals the blind/s to open. The operational speed is slower during the first 3 seconds, in order to give more control when tilting the blind slats. The speed then increases and becomes continuous. From this moment on it is possible to release the button because the blind/s will keep moving until the signal to stop is given or when it reaches the top set limit.

#### 3.1.2.2 Closing / Tilting

Pressing the DOWN button signals the blind/s to close. The operational speed is slower during the first 3 seconds, in order to give more control when tilting the blind slats. The speed then increases and becomes continuous. From this moment on it is possible to release the button because the blind/s will keep moving until the signal to stop is given or when it reaches the bottom set limit.

### 3.1.3 Stop

When moving, the blind/s can be stopped by pushing and releasing the UP or DOWN button.

### 3.1.4 Setting blind limits

The blind stop limits for the top and bottom position(s) can be also set by means of the control unit. They can be set individually for each blind, for groups of blinds (groups A or B) or for all the blinds with the following procedure:

1. Select the blind (the group or all) that must be set.
2. Push simultaneously the UP and DOWN buttons for 8 seconds until the LED on the motor card/s starts flashing rapidly, this indicates the memory is clear of all previous settings.
3. Drive the blind(s) to the first set limit and stop the blind. Now press simultaneously both the UP and DOWN buttons for 8 seconds until the LED on the motor flashes twice to set the limit.
4. Now drive the blind to the second set limit and stop the blind. Now press simultaneously both the UP and DOWN buttons for 8 seconds until the LED on the motor flashes four times to set the limit.

### 3.1.5 Latest selection storage

The group control unit "memorises" your latest selection. If the SELECT button is pressed, the motor L.E.D. corresponding to the last selection will light up.

When the UP or DOWN button is pressed, the motor L.E.D. corresponding to the latest selection will light and the blinds will start moving in the required direction.

### 3.1.6 Key lock

When all three buttons (UP, SELECT and DOWN) are pressed simultaneously the L.E.D. on the group control unit flashes and the keyboard is deactivated (KEY LOCK function). With the same procedure, the keyboard will be reactivated. When the keyboard is deactivated it is impossible to control the control unit by means of the keyboard.

### 3.2 Manual Remote Control

A general switch, located at any position, can be connected across the group control unit and the low voltage supply line (see page 20) allowing all the blinds on that circuit to be simultaneously closed. When this switch is pressed, the control unit selects all the blinds coupled to the same supply line and close them i.e. simulates the pressing of the DOWN button for 15 seconds (the L.E.D. on the control unit will turn off during this 15 seconds).

During this time, UP, SELECT or DOWN buttons cannot be operated.

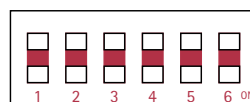
### 3.3 Remote Control by infrared transmitter.

The group control unit can be operated by remote infrared remote control that simulates exactly the pushing of the UP, SELECT and DOWN buttons.

By means of an internal 6-channel dipswitch (see drawing below) it is possible to set your own code but this must correspond to the code set on the remote control jumpers/dip-switches. Where a number of group controls are installed it is possible to specifically select a control unit according to the code setting by remote control. There are 64 possible combinations.

OFF: open contact

ON: closed contact



### 3.4 Brightness sensor

A photo-resistance circuit design in the group control allows the room lighting level to be controlled.

To set the required room lighting level, press simultaneously the SELECT and UP buttons until the control unit LED starts flashing rapidly and after a sufficient time lapse, release them - avoiding obscuring the sensor with your fingers.

To activate the automatic control function of the blinds with this brightness sensor setting, press simultaneously the SELECT and DOWN buttons until the led flashes twice slowly. The blinds will now automatically adjust to meet the set level.

After activating the automatic blind control, manual control of the control unit is not

possible (however, if fitted, the individual blind switch will still function).

To restore the manual group control, deactivate the automatic brightness control by pressing simultaneously the SELECT and DOWN buttons until the led flashes four times slowly.

## SL1330 Control unit assembly kit

### SL1330 group control installation kit

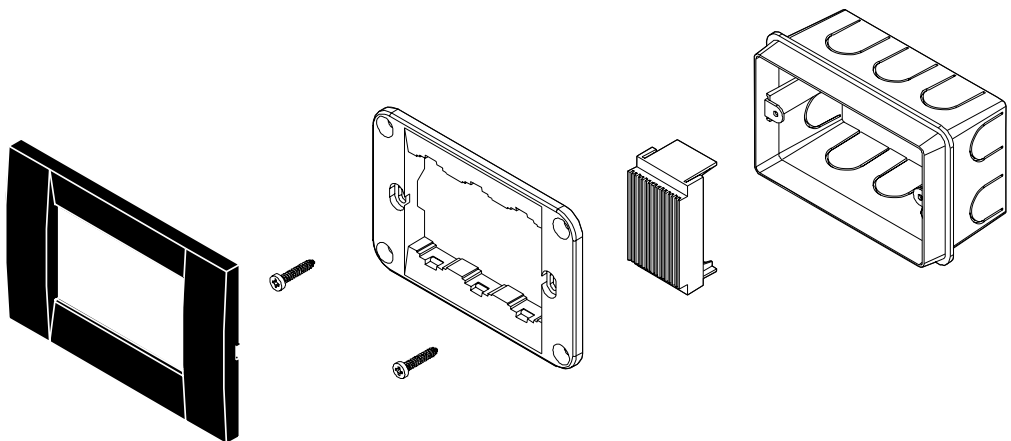
Parts for the installation of the SL1291 control unit.

These parts include a type 503 wall insert box, a fixing support for the control unit with screws, and an aluminium cover plate (anthracite colour) with insert.

A surface mounted box is also available.

The parts have the following size:

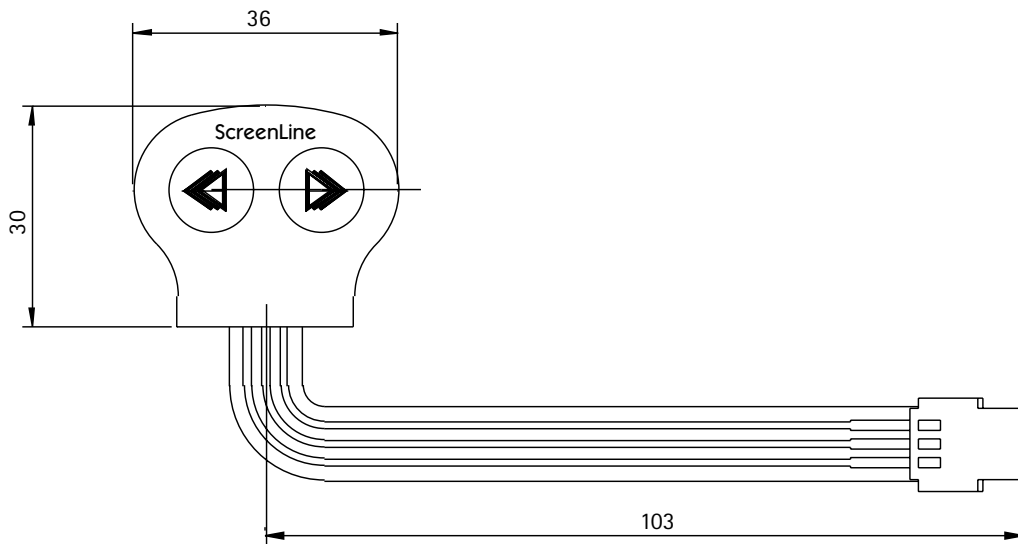
Built-in box	117 x 75 x 50 mm
Closing plate	120 x 80 x 6 mm



**SL1290 membrane switch**

This is a double switch (UP / DOWN) that can be applied by means of an adhesive tape to the internal face of the double-glazing unit (face 4), with a wire junction for direct connection to the external motor terminals (blue /white /grey).

- Size 30 x 36 x 1.5 (ht) mm



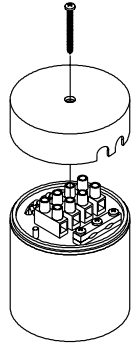
# Transformer

## Transformer

A toroidal transformer with a 220 Vac supply for the primary and 12/24 Vac output for the secondary output is available as necessary.

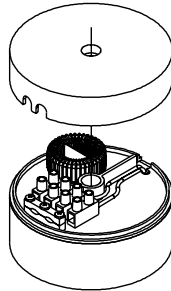
The models available are:

Model SL1313



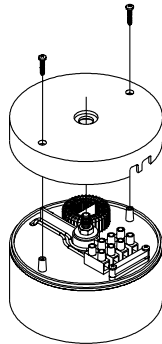
Power	30VA
Number of connected motors	2
Size	Ø=67 mm h=82 mm

Model SL1314



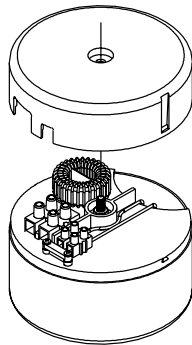
Power	60VA
Number of connected motors	4
Size	Ø=115 mm h=65 mm

Model SL1315



Power	120VA
Number of connected motors	8
Size	Ø=115 mm h=70 mm

Model SL1316

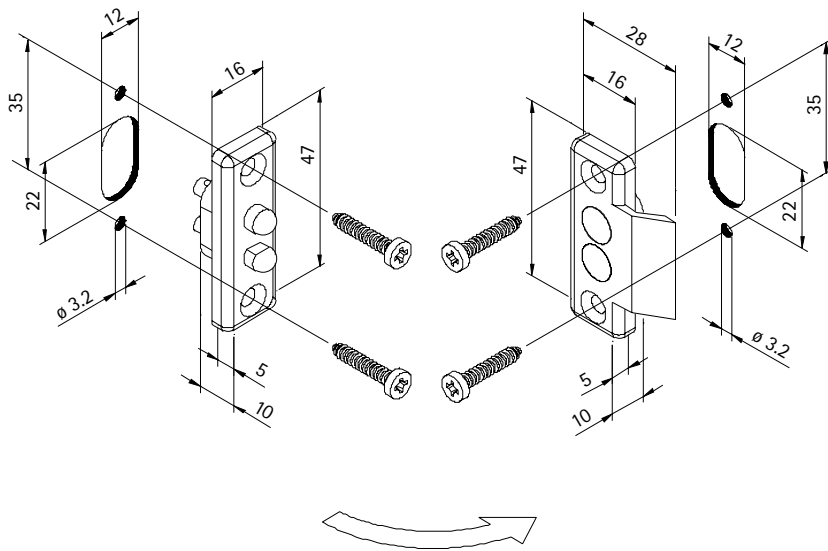


Power	240VA
Number of connected motors	16
Size	Ø=136 mm h=104 mm

Models in compliance with the EN 60-742-05/00 regulation.

**SL1169 make / break contacts**

These contacts are recommended for use on opening window or door systems allowing electrical operation. They are made up of two parts: one with two male contacts with springs and the other one with female contacts (see drawing).



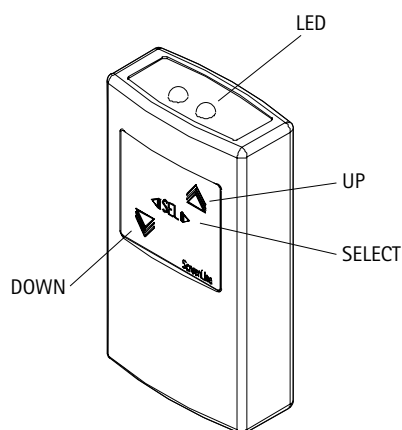
## Infra-red remote control for external motor group control unit

### 1. General description

The SL1292 infrared remote control unit operates through the group control unit. It has three buttons which simulate the Up, Down and Select buttons of the SL1291 group control unit.

### 2. Technical features

- |                                 |   |
|---------------------------------|---|
| • battery                       | 9V alkaline, standard format<br>PP3                   |
| • indicative batteries duration | 2.5 months<br>(assuming a 1 minute daily<br>function) |
| • protections                   | internal against the battery<br>polarity inversion    |
| • range                         | approximately 15 metres                               |
| • use temperature               | 0-50°C  |
| • infra-red wave-length         | 940-950nm   |
| • transmission frequency        | 36KHz   |
| • datum frequency               | 500Hz   |
| • size                          | 90 x 50 x 24 (ht)                                     |



### 3. Operation

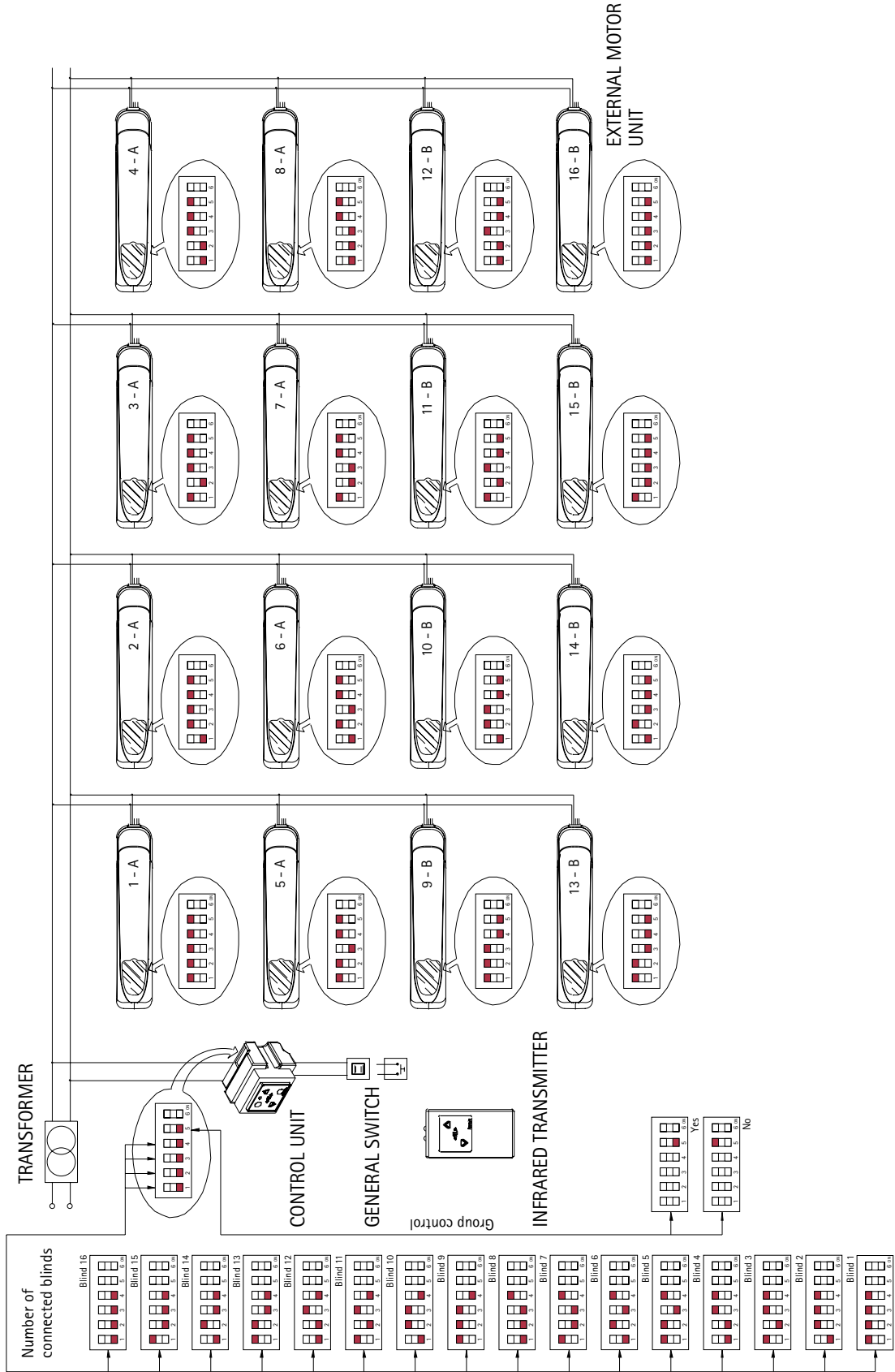
The remote control includes a 6-channel dipswitch that must be set with the same dipswitch code that is included in the control unit. The 6-channel dipswitch has 64 code combinations.

When directing the remote control frontally at the group control unit, it will be possible to control UP, DOWN and SELECT.

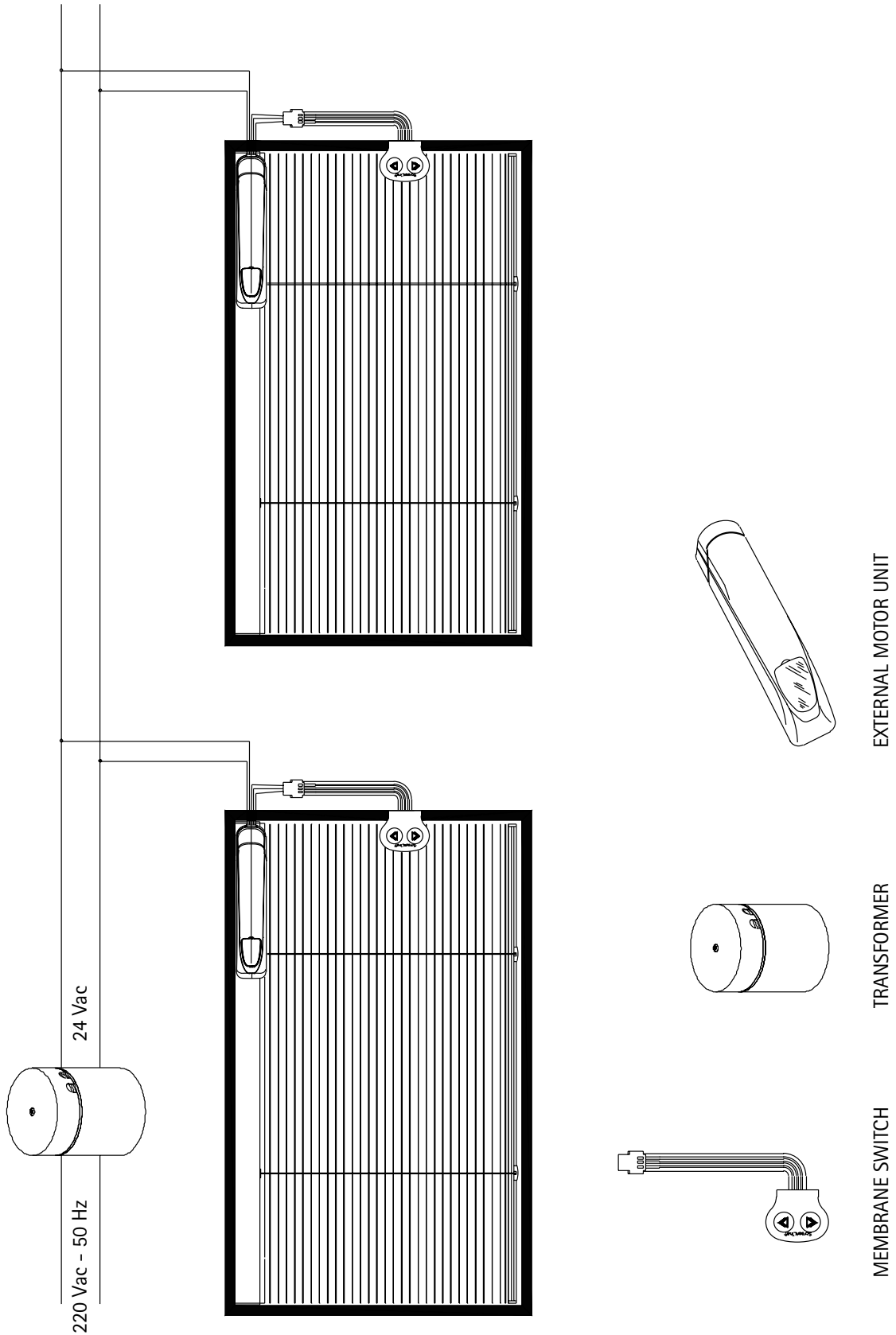
Pushing simultaneously the buttons, the following functions will be activated:

- press the UP & DOWN buttons for 8 seconds: the selected blind/s can have their set limits re-programmed.
- Press the UP, SELECT and DOWN buttons for 3 seconds: the Key Lock function (control unit key lock) will be activated and / or deactivated.
- Press the UP and SELECT buttons for 3 seconds: the control unit will memorize the level of light (brightness sensor of the control unit).
- Press the SELECT and DOWN buttons for 3 seconds: the brightness sensor of the control unit is activated or deactivated.





# External motor Wiring Diagrams

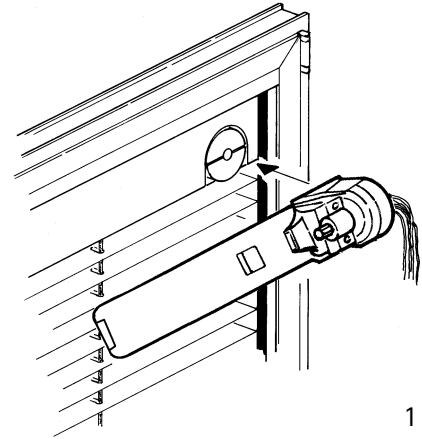


## 1. Motor installation

Remove the motor body from the motor base plate to allow the magnet rotate freely and so align perfectly with the internal magnet.

Remove the protective film from the adhesive tape.

Stick the motor base plate parallel with the head rail and press, so that the adhesive perfectly adheres to the glass. Connect the two cables (red and black) of the motor to the power supply cables.



1

### 1.1 Electrical connections to control system

- **Connection to the wall switch**

Undo the three cables from the motor base plate.  
Connect keeping the white cable as the common.

- **Connection to the SL1290 membrane switch**

Determine where the membrane switch is to be located, distance must be less than 1.5 m from the motor.

Carefully clean the glass area.

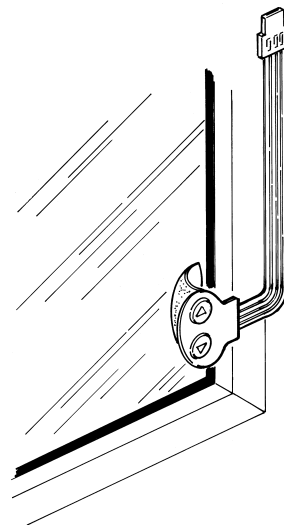
Remove the protective film from the adhesive.

Stick the membrane, so that the adhesive end coincides with the glass edge. Plug the three cables from the motor into the terminal block.

- **Connection to the group control unit SL1291**

Couple the two cables (red-black) of the motor to the supply cables from the transformer or from the group control unit.

Where the wall switch or membrane switches are not used, locate the three cables (blue/ white/ grey), well insulated and not touching each other, in the glazing pocket. In this instance control is implemented through the power supply cables.



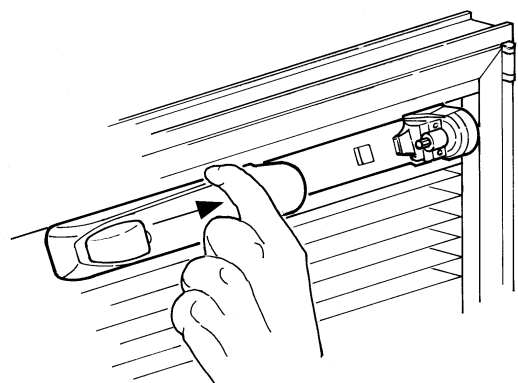
1.1

### 1.2 Motor application

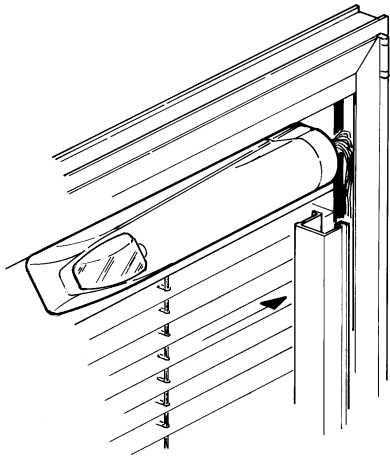
Apply the motor, sliding it on the base plate until it is completely located.

### 1.3 Circuit system check.

Power supply. The red L.E.D. on the motor lights up, this means that the connection was successful.



1.2



1.4

If the L.E.D. does not come on, it means that the circuit is not complete.

Check that the motor is correctly fixed on its base plate.

After a short time the red L.E.D. goes out.

Press the raising and lowering buttons:

- UP - the blind goes up
- DOWN - the blind goes down.

If the system works in reverse when using the individual switch: for the membrane switch reverse the connector block; for the wall switch reverse the blue and grey cables.

#### 1.4 Glazing bead application

After approving the installation, apply the glazing beads ensuring that the connecting wires are not damaged.

## 2. Motor programming

### 2.1 Memory reset

Press simultaneously the UP ▲ and DOWN ▼ buttons simultaneously for a min. of 8 seconds and until the red L.E.D. flashes rapidly. This indicates the removal of the previous memory settings.

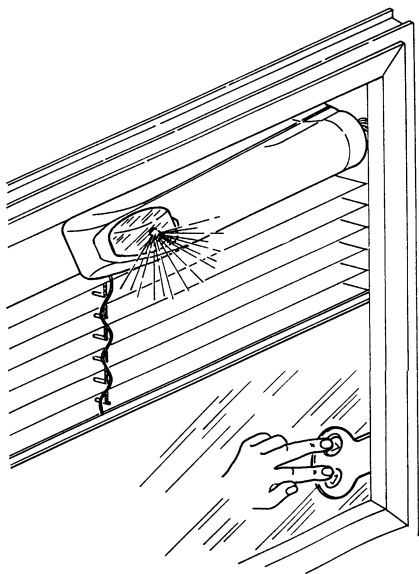
**Caution!** If you want to carry out the reset operation with the remote control or the group control unit, ensure you **ONLY** select the motor(s) whose memory you want to reset. Otherwise you will reset the memory of all the connected motors.

### 2.2 Limit setting

It allows memorizing the positions for the blind switch-ends (upper and lower) or only the tilting switch-end.

#### Upper limit

Press the UP ▲ button and take the blind up to the desired position. Stop the blind by pressing any button. Then press the UP ▲ and DOWN ▼ buttons simultaneously until the red led flashes twice. This indicates that the upper limit has been successfully memorised.



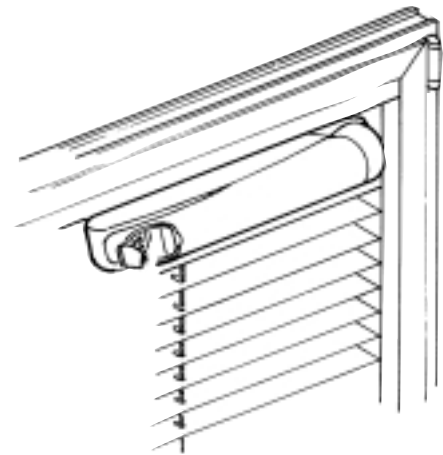
2.2

### Lower limit

Press the DOWN ▼ button and take the blind down to the desired position. Stop the blind by pressing any button. Then press the UP ▲ and DOWN ▼ buttons simultaneously, until the red led flashes four times. This means that the lower limit has been successfully memorised.

Drive the blind up and down in order to confirm the limits have been correctly set and memorised.

*Caution!* To 'fine tune' the set limits more precisely, use the UP ▲ and DOWN ▼ button alternatively.



## 3. Motor and Control Unit coding

When using the group control unit for a centralized system, the motors and the control unit must have their respective 6 channel dipswitches coded accordingly.



3.1

### 3.1 Motor dipswitch

Every motor card includes 6 dipswitches located under the glass cover:

- dip-switches 1 to 4: assigns motor number (max. 16)
- dip-switch 5: assigns "groups" function
- dipswitch 6: assigns direction of rotation.

### 3.2 Control unit dipswitch

Every control unit card includes 6 dipswitches:

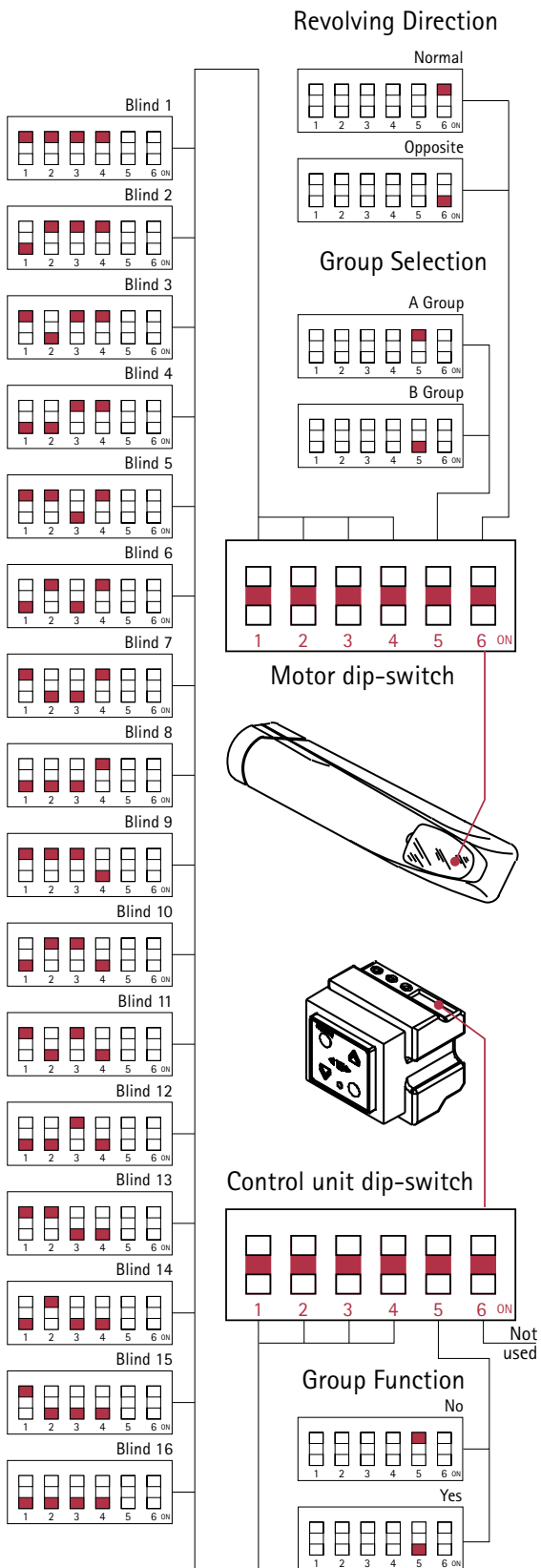
- dipswitches 1 to 4: assignment to the control unit of the number of connected motors
- dip-switch 5: "groups" function assignment
- dipswitch 6: non-operating.

### 3.3 Motor numbering setting

Every motor must have a number from 1 to 16.

Open the glass cover plate and regulate the first four dipswitches, position them corresponding to the number you allocate.

For example: if you want to assign the number 7 to a motor: the dipswitches combination is OFF-ON-ON-OFF.



### 3.4 Assignment of the "groups" function to the motor

It is possible to split the motors into two groups, "A" and "B", so that the group "A" and "B" can be controlled separately.

The assignment of a motor to a group takes place through the regulation of the dipswitch number 5.

When the dipswitch is "ON" the motor is assigned to the group "B".

When the dipswitch is "Off" the motor is assigned to the group "A".

Leave all the dipswitches in the "A" or "OFF" position to have no group selection.

### 3.5 Control unit-numbering setting

The control unit must be assigned with the quantity of motors it will control, through the regulation of the first four dipswitches and the "groups" function, with the fifth dipswitch.

#### 3.5.1 Assignment of the quantity of motors to be controlled

Set the first four dipswitches, positioning them to correspond to the number of motors you wish to control, using the same procedure for motor numbering.

For example: if you wish to control 10 motors, the dip-switch combination is ON-OFF-OFF-ON.

#### 3.5.2 Activation of the "groups" function

If the "groups" function has been activated for the motors (ref. 3.4), in order to control the group "A" or "B" separately, the control unit group function must also be activated.

The activation of the "groups" function is made through the regulation of dipswitch number 5 on the control unit.

When the dipswitch is "ON", the "groups" function on the control unit is activated.

When the dipswitch is "OFF", the "groups" function on the control unit is deactivated.

### 3.6 Selection

The SEL button controls successive selection.

Every time you push the central "SEL" button of the control unit or of the remote control, all the motors, from the first one to the last one, are selected in sequence. Then the group "A" (when the groups function is activated), the group "B" (only when the groups function is activated) and eventually all together are activated.

The motor L.E.D. will light up indicating the motor selected.

### 3.7 Slats tilting function

Momentarily press the UP ▲ or DOWN ▼ button depending on the tilting direction rotation and desired slat orientation.

During this procedure, the motor rotates slowly in order to find the appropriate slats inclination.

### 3.8 Rise and descent functions

Press the button corresponding to the chosen function, UP ▲ or DOWN ▼, constantly for more than 3 seconds. The blind will then start to run in high-speed mode – even when the button is released – until it stops at the set limit.

(See 2.2 Limit setting).

### 3.9 Stop function

The blind raise or lower function can be stopped in any position by pressing (impulse) either the UP ▲ or DOWN ▼ button.

### 3.10 Keyboard lock and unlock

To lock the IR remote control or control unit keyboards, push the UP ▲, SEL and DOWN ▼ buttons simultaneously for 4 seconds until the control unit L.E.D. flashes.

To unlock, follow the same procedure, until the L.E.D. flashes.